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(54) Brake lever

(57) A cycle brake handlebar lever 2 in which the inner wire of the Bowden cable is clamped to the lever by a nut and bolt, has its interior hollow to accommodate the end of the inner wire.

Fig. 2

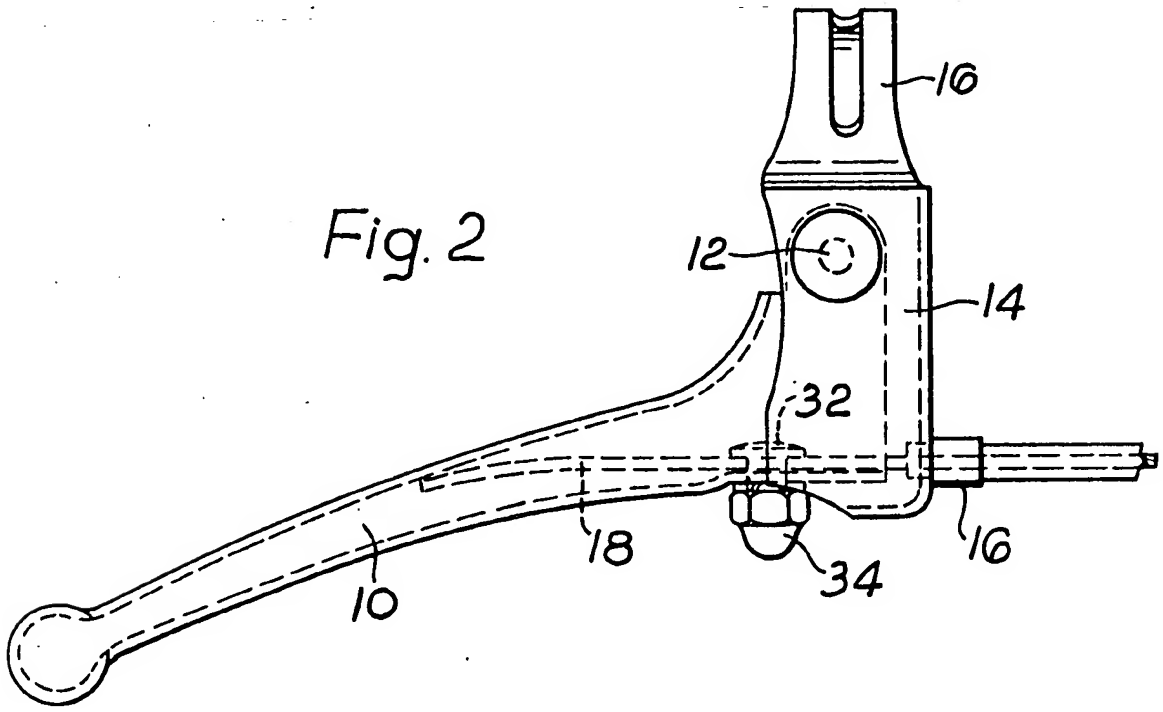

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Fig. 1

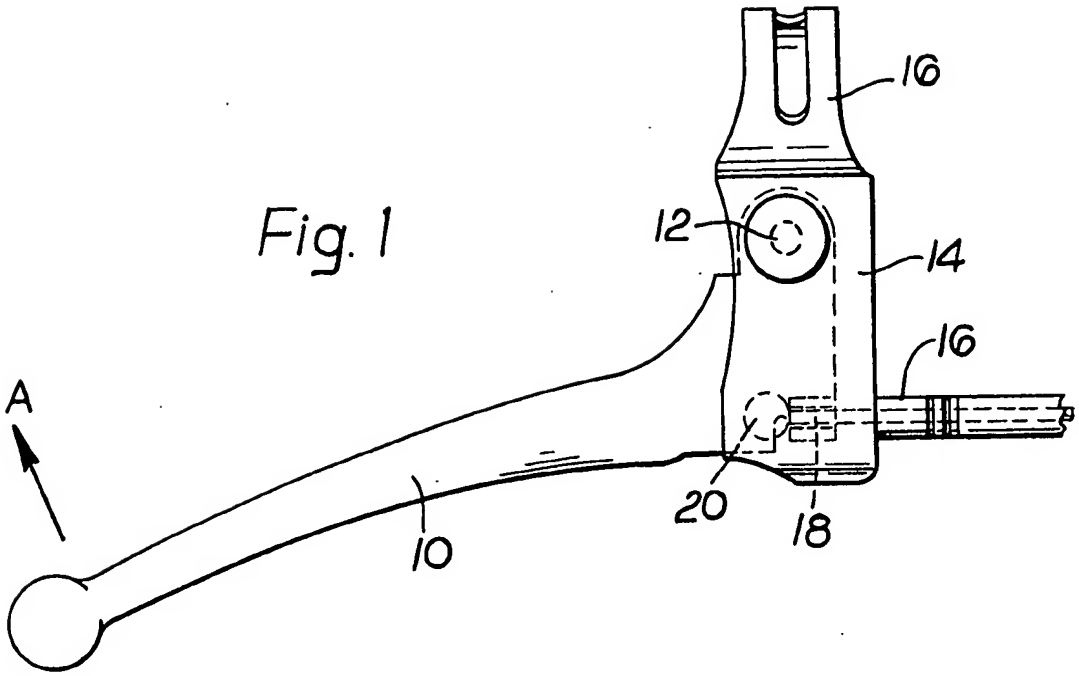


Fig. 2

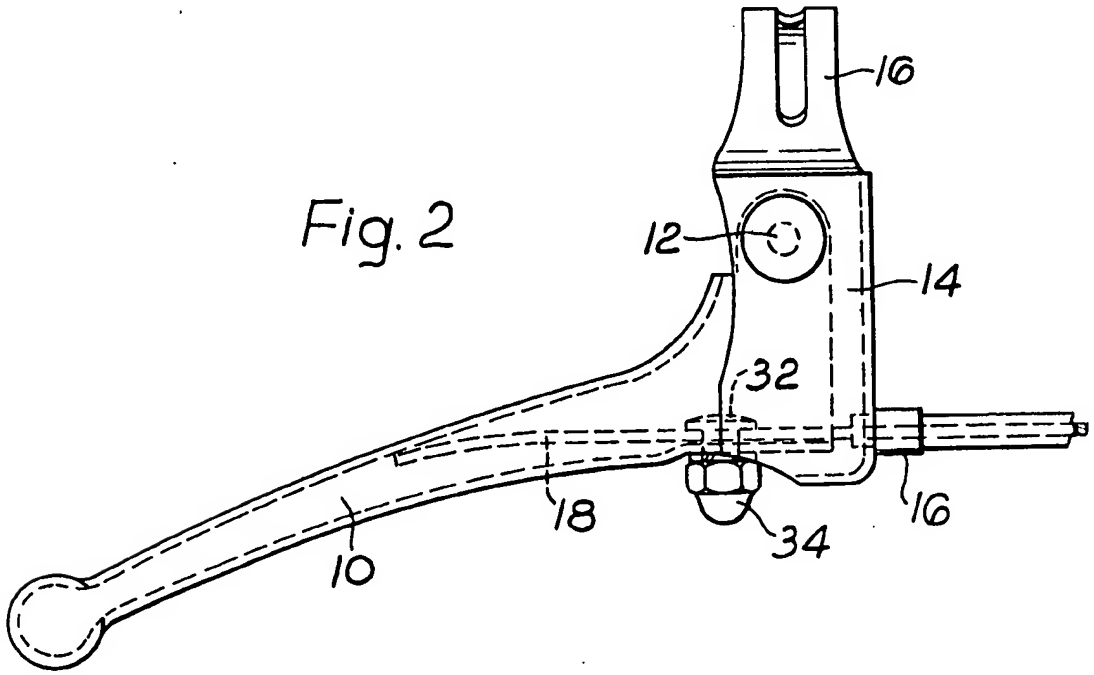
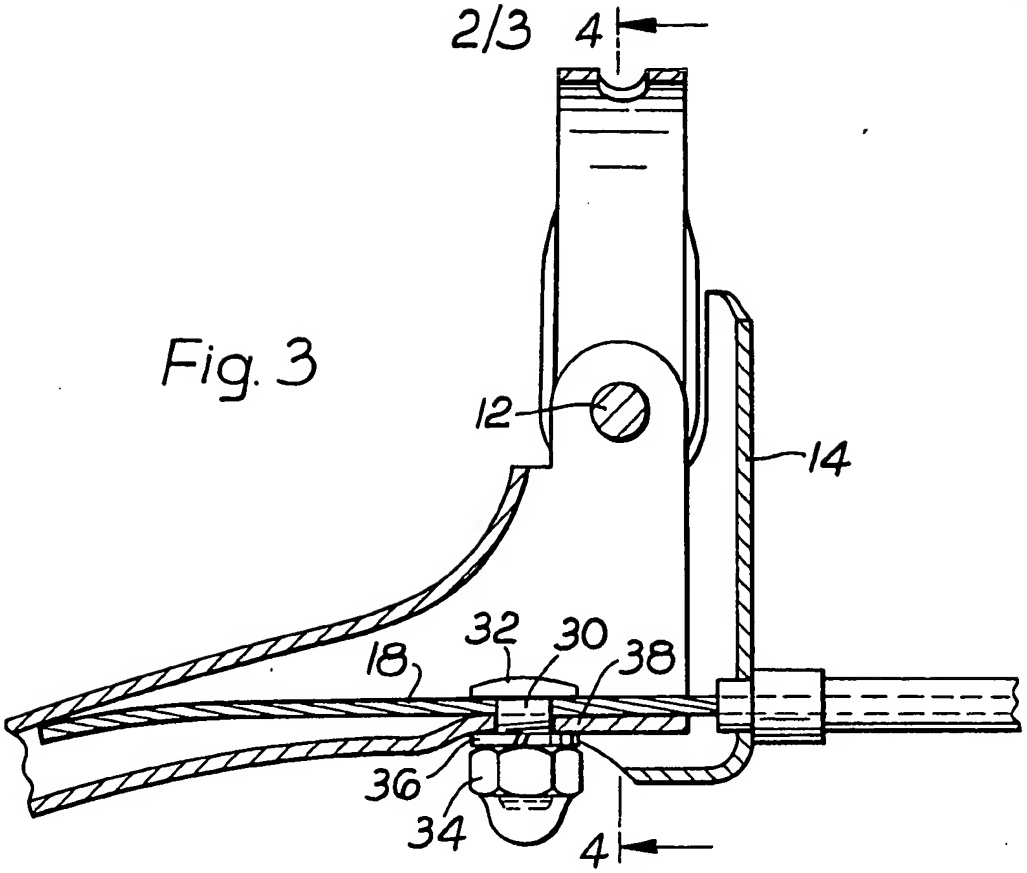


Fig. 3



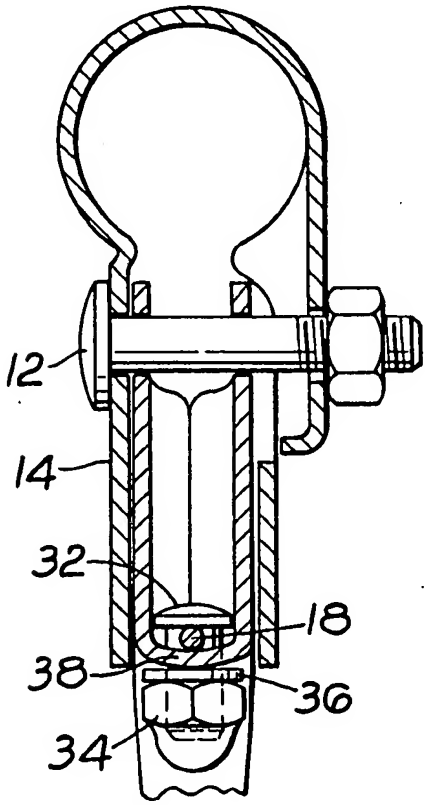


Fig. 4

Fig. 5

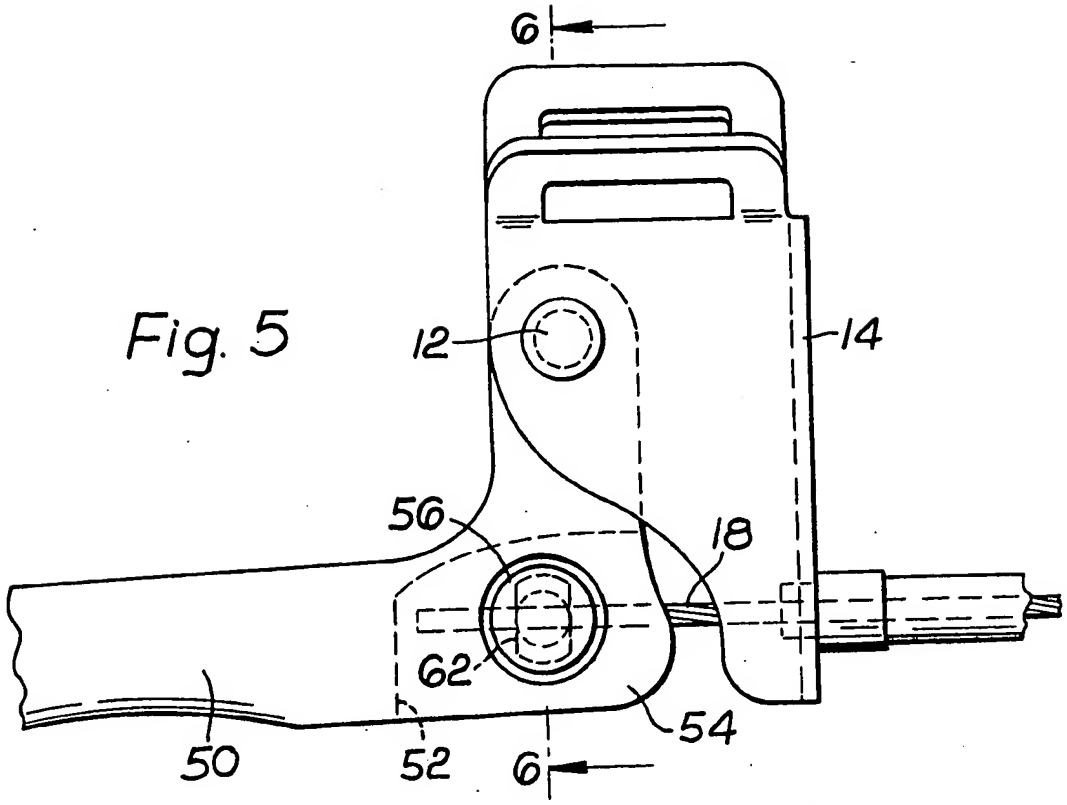
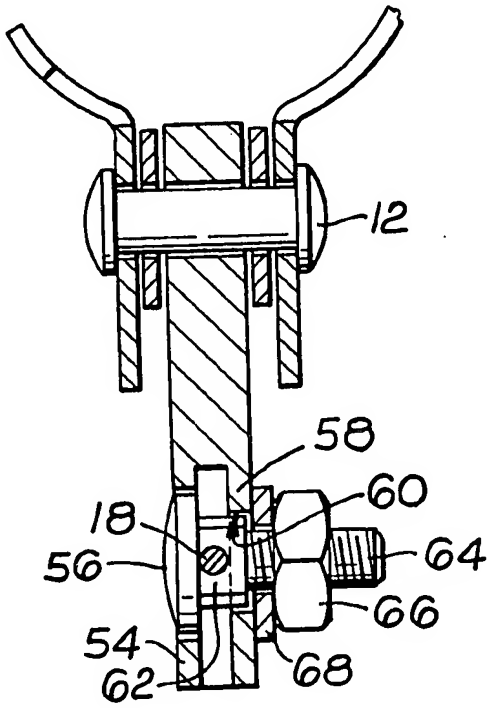


Fig. 6



SPECIFICATION

Brake lever

It is known to make a cycle brake with a Bowden cable extending between a handlebar lever and a brake caliper. Sometimes the cable has a nipple soldered to each end of the inner wire for anchorage of the wire ends to the lever and to the brake caliper or like, and sometimes the caliper end (only) has the inner wire of the cable clamped by a bolt and nut, giving the advantage of providing adjustment when the brake pads have worn.

According to the present invention the handlebar lever end of the Bowden cable is nut and bolt clamped.

Preferably the lever is hollow to receive the end of the inner wire extending beyond the clamp, for neatness.

It has been found that the nut and bolt clamp is much stronger than any possible solder joint, and cable failure due to nipples pulling off the wire can be wholly avoided.

Two embodiments of the invention are now described with reference to the accompanying drawings in which:

Figure 1 is an elevation of a brake lever showing a portion of the cable as commonly used hitherto: that is to say Fig. 1 shows the prior art.

Figure 2 is a view similar to Fig. 1 but showing the present invention;

Figure 3 is a sectional elevation of an enlarged scale of the arrangement shown in Fig. 2;

Figure 4 is a section taken on the line 4–4 of Fig. 3.

Figure 5 is a view similar to Fig. 2 of the second embodiment; and

Figure 6 is a section similar to Fig. 4 but of the second embodiment.

Considering first the prior art in Fig. 1, the lever 10 is pivoted on pin 12 in a housing 14 which includes a band for clamping about the handlebar so as to fix the lever in position thereon. The front wall of the housing forms an abutment for the outer cable 16 of the Bowden transmission, the inner wire of which 18 is soldered to a nipple 20. The nipple illustrated is a barrel nipple which is generally cylindrical, although other shapes are sometimes used. The lever has a through bore to receive the nipple and a slot to accommodate the wire 18. When the handle 10 is pivoted in the direction of the arrow A the inner wire 18 is displaced relative to the outer wire 16.

In the first embodiment of the invention, as shown in Fig. 2, the parts are generally similar except that the lever 10 is preferably hollow and is provided with an aperture to receive the stem 30 of a bolt, the bolt having a diametric through bore adjacent its head 32, and the free end of the bolt being engaged with a nut 34 with an interposed [illegible]

The free end of the inner wire 18 is passed through the bore in the bolt and (when in the required position of adjustment) the nut is tightened clamping the wire between the head 32 and the adjacent surface 38 of the lever.

Referring now to Figs. 5 and 6 showing the second embodiment, the lever 50 is solid apart from the portion bounded by the broken line 52 which is slotted so as to provide a space to receive the inner wire 18 in the slot.

One wall 54(56) on one side of the slot has a relatively large circular aperture to receive the head 56 of the bolt, and the other wall 58 has a parallel sided slot 60 so that a pair of flats 62 provided on the bolt adjacent the head 56 engage against the walls of the slot so as to make the bolt non-rotatable with respect to the lever.

The shank 64 of the bolt projects through that slot and nut 66 is tightened against washer 68 so as to clamp the wire tail between the diametric hole in the flatted neck of the bolt and the wall 58 of the lever. Although the drawing shows a conventional nut 66, a domed cap nut can be provided such as the one 34 used in Fig. 4 for a neater appearance.

CLAIMS

1. A cycle brake in which the handlebar lever end of a Bowden cable inner wire is clamped by a nut and bolt to the handlebar lever.

2. A cycle brake as claimed in Claim 1 wherein said lever is hollow and receives the end of said inner wire.

3. A cycle brake as claimed in Claim 1 or Claim 2 wherein the bolt has a diametric through bore and the wire is clamped between the head of the bolt and a surface of the lever.

4. A cycle bar as claimed in Claim 1 or Claim 2 wherein the bolt has a diametric through bore and the wire is clamped against a surface of the lever.

5. A brake as claimed in any of the preceding claims wherein the bolt is rendered non-rotatable with relation to the lever by complementary non-circular parts.

6. A handlebar lever for a cycle brake substantially as described with reference to Figs. 2–4 of the accompanying drawings.

7. A handlebar lever for a cycle brake substantially as described with reference to Figs. 5 and 6 of the accompanying drawings.

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